



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
SALT LAKE DISTRICT OFFICE
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Salt Lake City, Utah 84119

3500 (U-027)

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DIVISION OF
OIL, GAS & MINING

MEMORANDUM

To: USGS, District Chief, Water Resources Division,
1745 West 1700 South, Room 1016, Salt Lake City,
Utah 84104

From: BLM, Salt Lake District Manager

Subject: Bonneville Salt Flats Study

The Salt Lake District, BLM, has received approval for funding of the Salt Flat Study. The study will be conducted as per the Interagency Agreement between the BLM and USGS. Attached is a memorandum which indicates that additional study is needed prior to taking further legal action. In order to insure that the study plan under preparation by the USGS would investigate the aspects of the Bonneville Salt Flats (BSF) most pertinent to the BLM, the following information is provided. In addition to the items listed in the existing preliminary study plan, the following objectives should be added or receive additional emphasis.

Goals and Objectives

The major area of concern to the BLM is salt balance on the BSF. All factors potentially affecting the salt crust must be evaluated. These factors include surface and subsurface parameters. Lines (1979) identified floods of wind driven brine as an effective method for removal of salt from the BSF. An effort should be made to document and quantify this occurrence. Climatological or other data could be evaluated to ascertain if the brine is returning to the salt flats after being driven by winds, the brine could be tagged (radioactive isotopes or other means) to back up qualitative data such as the study of aerial photographs.

Isostatic rebound has been identified as a possible mechanism for displacement of the salt flats. Is there any evidence to support this possibility? The Cadastral Survey could assist as needed. Impacts of racing and other uses should be investigated.

Identify historic trends in salt volume and distribution and contrast these trends with salt volume and locations since desiccation of Lake Bonneville. Lines (1979) evaluated various measures to resolve conflicts on the Salt Flats of which replacement of the salt and reductions in salt loss would appear to be most viable. Please include a feasible analysis which addresses salt transportation, sources, volumes, distribution

methods and cost in the study plan. It is also necessary to evaluate the most effective ways of reducing salt loss. This could include ditch closures or alternative mining areas and methods for reversing hydrologic gradient, and other possibilities the USGS may develop. One method suggested for reversing the hydrologic gradient would be to maintain the water level in a production ditch at a high level.

The study plan should also provide for sampling of Federal leases and adjacent lands in order to determine if potash or other minerals such as magnesium or sodium salts have been produced from unleased lands.

Methods

To be completed by USGS in detail but generally to consist of drilling, sample collection and analysis, pump tests, 3-D modeling, air photo analysis, and climatological data analysis.

Products

Status report by USGS to involved Federal and State agencies every four months summarizing tasks performed.

06/15/90 Interim report - analysis of wind driven brine floods.

10/92 Publication ready report completed.

Funding

The Salt Lake District BLM has received approval for funding of \$105,000 per year for three years. Additional funding may be acquired from user groups. Reilly has been approached to provide access, brine chemistry and flow data, and drilling assistance. The USGS should prepare a project plan which would adequately address all study parameters and identify additional funding needs.

Attachment
As stated

cc: Dianne Nielson

the mining activities are in fact destroying the salt flats and that the mining companies are currently mining materials other than those contained in the leased areas.

If the study shows that the mining activities are destroying the salt flats and that only a termination of those activities can preserve them, then there is a possibility that the courts would award an injunction to prevent irreparable harm based on a theory of public nuisance.

An injunction based on a public nuisance theory requires two things. First, a showing of a substantial injury to the general public, and second, a balancing test of the harm caused by the activity and the harm that would result if the injunction was granted. See U.S. v. Reserve Mining Co., 380 F. Supp. 11 (1974). That is why the extent of the mining limitations need to be known. Because of the fact that the government leased the mining companies rights to mine, the court will probably be concerned with the amount of harm that they will incur if they are forced to stop their operations.

There are, however, cases in which the court has granted injunctive relief to a public entity even though it had issued permits for the activity in question. U.S. v. Reserve Mining Co. 380 F. Supp. 11 (1974).

I have not yet located any cases in which the court has revoked a lease or granted injunctive release based on a theory of public nuisance which involved the federal government. I will continue to search for such a case.

I recommended that before further action is taken we obtain answers to these questions and that the required study is performed.

Kerry L. Chlarson

Legal Intern